

Claims

[c1] What is claimed is:

1. A disk force-ejection and force-loading device for use in an optical disk drive, the optical disk drive comprising an active gear of a drive motor for loading and ejecting an optical disk and a housing comprising a position hole nearby the active gear of the drive motor, the disk force-ejection and force-loading device comprising:
a drive element installed on one end of the disk force-ejection and force-loading device for connecting and driving the active gear of the drive motor via the position hole;
a motivity provider for rotating the drive element; and
a power provider for providing electric power to the motivity provider.

[c2] 2. The disk force-ejection and force-loading device of claim 1, wherein the drive element is a gear.

[c3] 3. The disk force-ejection and force-loading device of claim 1, wherein the motivity provider is a motor.

[c4] 4. The disk force-ejection and force-loading device of claim 1, wherein the position hole is for matching a po-

sition element to connect the drive element and the active gear of the drive motor properly.

- [c5] 5.The disk force-ejection and force-loading device of claim 4, wherein the position element is connected to the motivity provider and positioned between the drive element and the motivity provider.
- [c6] 6.The disk force-ejection and force-loading device of claim 2, wherein a terminal end of the drive element is connected to a terminal end of the active gear of the drive motor, and the position hole is positioned on the housing nearby the terminal end of the active gear of the drive motor.
- [c7] 7.The disk force-ejection and force-loading device of claim 2, wherein a side of the drive element engages a side of the active gear of the drive motor, and the direction of the major axis of the drive element is parallel with the direction of the major axis of the active gear of the drive motor, and the position hole is positioned on the housing nearby the terminal end of the active gear of the drive motor.
- [c8] 8.The disk force-ejection and force-loading device of claim 2, wherein a side of the drive element engages a side of the active gear of the drive motor, and the direc-

tion of the major axis of the drive element is perpendicular to the direction of the major axis of the active gear of the drive motor, and the position hole is positioned on the housing nearby the side of the active gear of the drive motor.

- [c9] 9. The disk force-ejection and force-loading device of claim 1, wherein the action modes of the motivity provider comprise a clockwise rotation for driving the drive element to rotate clockwise and a counterclockwise rotation for driving the drive element to rotate counterclockwise.
- [c10] 10. The disk force-ejection and force-loading device of claim 1, wherein the disk force-ejection and force-loading device further comprising:
 - an outer covering for covering the motivity provider and the power provider; and
 - a control switch for switching action modes of the motivity provider.
- [c11] 11. The disk force-ejection and force-loading device of claim 10, wherein the power provider is a battery.
- [c12] 12. An optical disk drive comprises:
 - a drive motor;
 - an active gear of the drive motor for loading and ejecting

an optical disk; and
a housing comprising a position hole nearby the active gear of the drive motor;
wherein the optical disk drive, a disk force-ejection and force-loading device is used to connect the active gear of the drive motor.

- [c13] 13. The optical disk drive of claim 12, wherein the disk force-ejection and force-loading device comprises:
 - a drive element installed on one end of the disk force-ejection and force-loading device for connecting and driving the active gear of the drive motor via the position hole;
 - a motivity provider for rotating the drive element; and
 - a power provider for providing electric power to the motivity provider.
- [c14] 14. The optical disk drive of claim 13, wherein the drive element is a gear.
- [c15] 15. The optical disk drive of claim 13, wherein the motivity provider is a motor.
- [c16] 16. The optical disk drive of claim 13, wherein the position hole is for matching a position element to connect the drive element and the active gear of the drive motor properly.

- [c17] 17.The optical disk drive of claim 16, wherein the position element is connected to the motivity provider and positioned between the drive element and the motivity provider.
- [c18] 18.The optical disk drive of claim 13, wherein a terminal end of the drive element is connected to a terminal end of the active gear of the drive motor, and the position hole is positioned on the housing nearby the terminal end of the active gear of the drive motor.
- [c19] 19.The optical disk drive of claim 13, wherein a side of the drive element engages a side of the active gear of the drive motor, and the direction of the major axis of the drive element is parallel with the direction of the major axis of the active gear of the drive motor, and the position hole is positioned on the housing nearby the terminal end of the active gear of the drive motor.
- [c20] 20.The optical disk drive of claim 13, wherein a side of the drive element engages a side of the active gear of the drive motor, and the direction of the major axis of the drive element is perpendicular to the direction of the major axis of the active gear of the drive motor, and the position hole is positioned on the housing nearby the side of the active gear of the drive motor.

[c21] 21. The optical disk drive of claim 13, wherein the disk force-ejection and force-loading device further comprises:

an outer covering for covering the motivity provider and the power provider; and

a control switch for switching action modes of the motivity provider.

[c22] 22. The optical disk drive of claim 21, wherein the power provider is a battery.